# (12) INTERNATIONAL

# (19) World Intellectual Property **Organization**

International Bureau



(43) International Publication Date 18 December 2003 (18.12.2003)

PCT

(10) International Publication Number WO 2003/103579 A3

(51) International Patent Classification7: A61K 35/22, 49/00

C12Q 1/00,

(21) International Application Number:

PCT/US2003/017574

(22) International Filing Date:

4 June 2003 (04.06.2003)

(25) Filing Language:

**English** 

(26) Publication Language:

English

(30) Priority Data:

5 June 2002 (05.06.2002)

60/385,972

(71) Applicant (for all designated States except US): TRANS-FORM PHARMACEUTICALS, INC. [US/US]; 29 Hartwell Avenue, Lexington, MA 02421 (US).

(72) Inventors; and

- (75) Inventors/Applicants (for US only): LEVINSON, Douglas [US/US]; 111 Maple Street, Sherborn, MA 01770 (US). AMSLER, Kurt [US/US]; 21 Richards Road, Southborough, MA 01772 (US). PETERSON, Matthew [US/US]; 60 Linda Avenue, Framingham, MA 01701 (US).
- (74) Agent: LUCAS, John; Transform Pharmaceuticals, Inc, 29 Hartwel Avenue, Lexington, MA (US).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,

CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## Declarations under Rule 4.17:

- of inventorship (Rule 4.17(iv)) for US only
- of inventorship (Rule 4.17(iv)) for US only
- of inventorship (Rule 4.17(iv)) for US only

### Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 29 July 2004

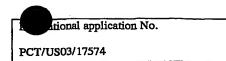
For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: HIGH-THROUGHPUT METHODS AND SYSTEMS FOR SCREENING OF COMPOUNDS TO TREAT/PREVENT KIDNEY DISORDERS

(57) Abstract: The invention concerns arrays, systems and methods for screening compounds, compositions or conditions useful to treat or prevent kidney diseases. These methods are useful to discover, optimize and select compounds, compositions, or conditions that prevent, inhibit, induce, modify, or reverse physical-state transitions, particularly in-vivo physical-state transitions relating to disease causing processes such as development and growth of renal calculi. Such compounds, compositions, or conditions can be exploited to treat, prevent or manage the disease itself, the cause of the disease, or the symptoms of the disease. Figure (1) is an illustrative flow chart describing a method for preparing supersaturated solutions for high throughput screening and analyzing the samples.







A. CLASSIFICATION OF SUBJECT MATTER  IPC(7) : C12Q 1/00;A61K 35/22, 49/00  US CL : 435/4; 424/558, 9.1  According to International Patent Classification (IPC) or to both national classification and IPC  B. FIELDS SEARCHED						
Minimum documentation searched (classification system followed by classification symbols) U.S.: 435/4; 424/558, 9.1						
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched						
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Please See Continuation Sheet						
C. DOCUMENTS CONSIDERED TO BE RELEVANT						
Category * Citation of document, with indication, where	appropriate, of the relevant passages	Relevant to claim No.				
Y US 5,591,730 A (STOLLER et al) 07 January 199	7(07.01.1997), see entire document.	1-102				
Y US 5,618,917 A (TOBACK et al) 08 April 1997 (08.04.1997), see entire document.		1-102				
Further documents are listed in the continuation of Box C.	See patent family annex.					
* Special categories of cited documents:  "T"  later document published after the international filing date of date and not in conflict with the application but cited to under principle or theory underlying the invention  "A" document defining the general state of the art which is not considered to be of particular relevance  "X"  document of particular relevance; the claimed invention can considered novel or cannot be considered to involve an invention.						
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the considered to involve an inventive streem combined with one or more other such that the control of	ep when the document is the documents, such combination				
"O" document referring to an oral disclosure, use, exhibition or other means	being obvious to a person skilled in t					
"P" document published prior to the international filing date but later than the priority date claimed	"&" document member of the same paten					
Date of the actual completion of the international search		Date of mailing of the international search report				
17 March 2004 (17.03.2004)	Authorized officer	08 JUN 2004  Authorized officer  Live Ball-Harris for				
Name and mailing address of the ISA/US  Mail Stop PCT, Attn: ISA/US  Commissioner for Patents  P.O. Box 1450  Alexandria, Virginia 22313-1450  Facsimile No. (703)305-3230	Telephone No. (571) 272-1600	resp				

Form PCT/ISA/210 (second sheet) (July 1998)

Continu	ation of B. FIELDS SI	EARCHED Item 3: tal or calculus, calcium oxalat			
WEST/N	PL: kidney disorder, cryst	tal or calculus, calcium oxalat	e; high throughput scre	ening, inhibitors, treatment, l	hyperoxaluria
1					
				·	
				·	
	,			·	•
					,
	·				